

Remarks

Reconsideration and allowance of the subject application are respectfully solicited in view of the foregoing amendments and the following remarks.

Information Disclosure Statement

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the Japanese and U.S. documents listed on the enclosed Form PTO-1449. A copy of the listed Japanese document is also enclosed, along with a July 5, 2005 Japanese Office Action issued in a Japanese counterpart application, citing this Japanese document. A check for the required fee of \$180.00 to cover the Information Disclosure Statement under 37 C.F.R. 1.97(c)(2) is also attached.

The concise explanation of relevance for the Japanese document is found in the attached English Abstract thereof. In addition, this Japanese document corresponds to U.S. Patent No. 5,528,270, also listed on enclosed Form PTO-1449.

It is respectfully requested that the above information be considered by the Examiner and that a copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Status of the Claims

Claims 1-34 are pending in the application, with Claims 1, 14 and 21 being independent. Claims 1, 14 and 21 have been amended herein. Dependent Claims 30-34 have been added.

Rejections

Claims 21-26 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,160,922 (Hayashi). Claims 1-5 and 9-20 were rejected under 35 U.S.C. § 103 as being unpatentable over the Hayashi patent in view of U.S. Patent No. 6,697,167 (Takahashi). Claims 6-8 and 27-29 were rejected under § 103 as being unpatentable over the Hayashi patent in view of the patent to Takahashi and U.S. Patent No. 6,439,683 (Matsumoto et al.).

Interview Summary

The undersigned conducted an interview with the Examiner and his supervisor on February 23, 2006 to discuss the rejections. The undersigned gratefully acknowledges the courtesies extended by the Examiners during the interview. In the interview, the undersigned proposed amending the independent claims to recite a feature not understood to be disclosed or suggested by the patents to Hayashi or Takahashi — that the claimed density correction involves the examination of the output of each of the recording elements. The Examiner agreed to consider withdrawing the rejections if the claims were amended along these lines.

Response to Rejections

In response to the outstanding rejections, and while not conceding the propriety thereof, Applicants have amended independent Claims 1, 14, and 21 along the lines suggested at the interview. Applicants submit that as amended, these claims are allowable for the following reasons.

Independent Claim 1 relates to a recording apparatus for recording an image on a recording medium by using a recording head in which a plurality of recording elements are arranged. The apparatus comprises memory means for storing a first table group for correcting input multi-level image data, the first table group comprising a plurality of first correction tables, each first correction table having a different degree of correction, and a second table group comprising a plurality of second correction tables having correction characteristics which are different from correction characteristics of the first table group with respect to different density levels. The apparatus also comprises first forming means for forming a first test pattern. The apparatus further comprises first setting means for setting test correction tables for making the densities of an image to be recorded by the plurality of recording elements uniform by associating first correction tables of the first table group with respective recording elements of the plurality of recording elements based on a result of reading the densities of areas of the first test pattern that correspond to the plurality of recording elements. In addition, the apparatus comprises second forming means for forming a second test pattern having a plurality of different density levels, the second test pattern being recorded with the recording elements being corrected by the test correction tables set by said first setting means. The apparatus also comprises second setting means for setting recording correction tables corresponding to each of the plurality of

recording elements based on the second test pattern, the recording correction tables being selected from among the first table group and the second table group.

Claim 1 has been amended to recite that the recording apparatus is for correcting non-uniformities in the density of the recorded image caused by different recording elements having different recording characteristics.

Claim 1 has also been amended to recite that the first forming means is for instructing each of the recording elements to record a pixel of a predetermined density to form the first test pattern using all of the recording elements.

Claim 1 has been further amended to recite that the second forming means is for instructing each of the plurality of recording elements to record a plurality of pixels at the same plurality of different density levels, to form the second test pattern having the plurality of different density levels.

By this arrangement, density non-uniformities in a recorded image that arise due to different recording elements having different recording characteristics can be compensated for and prevented from occurring.

In contrast, neither the patent to Hayashi, nor the patent to Takahashi is understood to be directed to devices for compensating for density non-uniformities in a recorded image due to different recording elements having different recording characteristics. In addition, these patents are not understood to disclose or suggest features that achieve this goal, i.e., first forming means for instructing each of the recording elements to record a pixel of a predetermined density to form the first test pattern using all of the recording elements, or second forming means for instructing each of the plurality of recording elements to record a plurality of pixels at the same

plurality of different density levels, to form the second test pattern having the plurality of different density levels, as recited by amended independent Claim 1. Rather, as shown in Figure 13, the Hayashi patent is understood to print images on a single sheet with different densities. Moreover, since there are blank spaces between the various images, it appears that not all the recording heads are instructed to print to produce this pattern. Moreover, the text of the patent itself is not understood to disclose or suggest that all the recording elements are used to perform this printing operation. In addition, the Takahashi patent is understood to disclose the printing of a first test print with images of different densities, as shown in Figure 11, and a second test print with images of different densities, as shown in Figure 14. But again, there are various blank spaces between the images, which appears to indicate that less than all of the recording heads were instructed to print. Moreover, the text of the patent itself is not understood to disclose or suggest that all the recording elements are used to print these test prints. As a result, neither of these patents is understood to correct for density non-uniformities due to different recording elements having different recording characteristics.

For these reasons, Applicant respectfully requests that the rejection of Claim 1 be withdrawn. And because independent Claims 14 and 21 have been amended in a similar manner, Applicant respectfully requests that the rejections of these claims also be withdrawn for similar reasons.

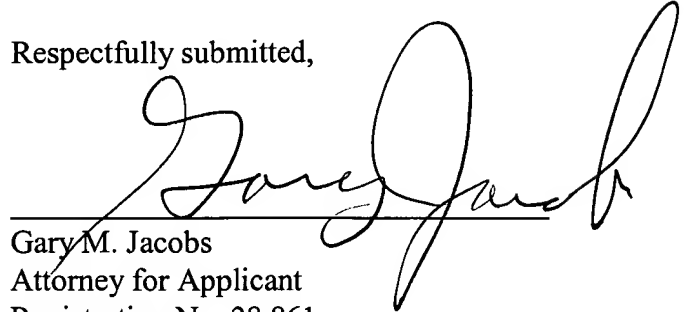
Dependent Claims 2-13, 15-20, and 22-29, and new dependent Claims 30-34 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

In view of the above amendments and remarks, the application is now in allowable form.

Therefore, early passage to issue is respectfully requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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